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• SCENERY FOR MEXICAN PLAY

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Jessie Todd, Teacher

APRIL 1944

DESIGN

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VOL. 45 • NO 8

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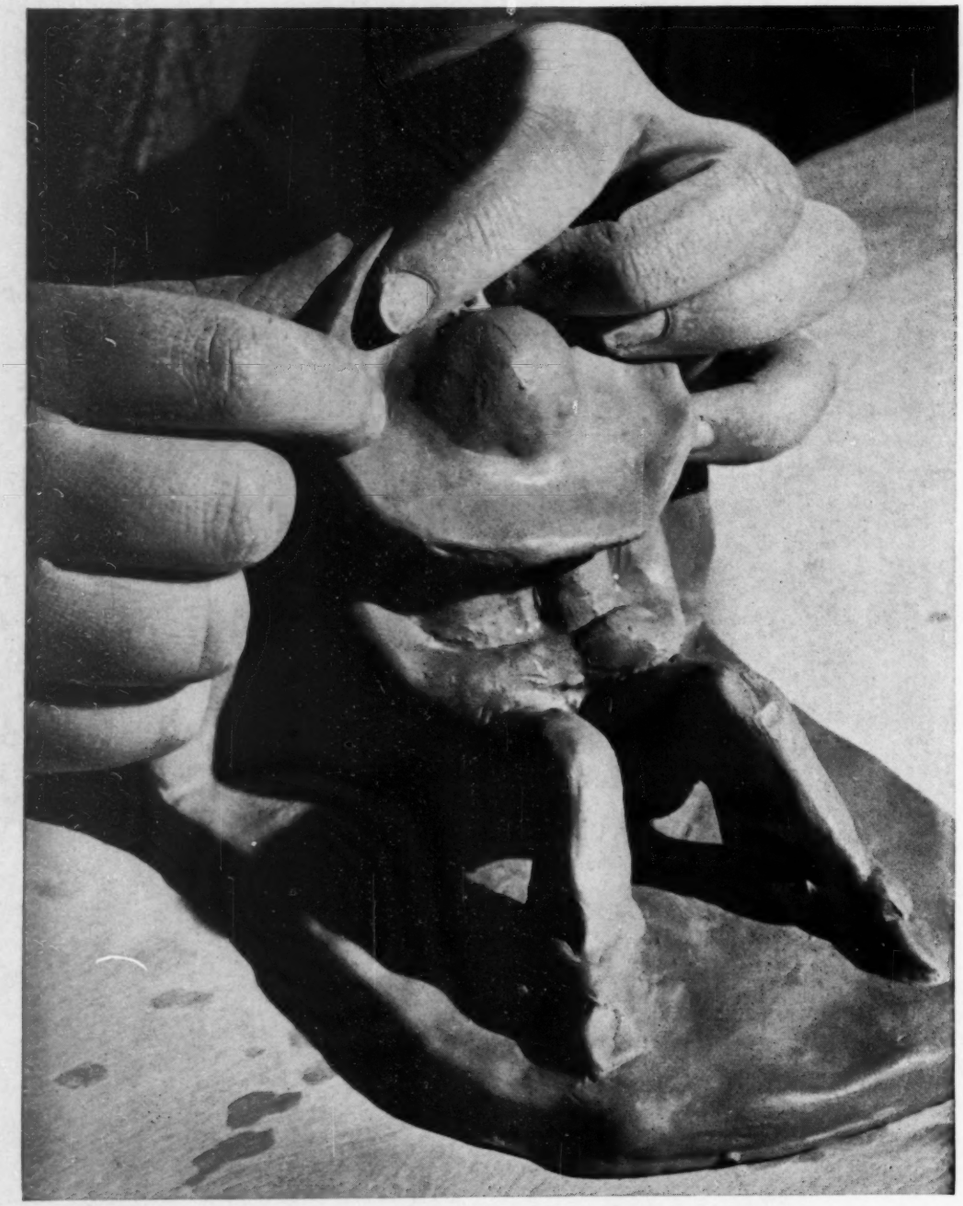

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The wartime emergency with the paper shortage and other delays due to labor conditions and manpower shortage have caused the delay in this and the forthcoming issues of DESIGN. In keeping with the spirit of economy the May and June issues will be combined into one number. It will be a special number devoted to the Arts in the Pacific Coast region. It is filled with rich material which we trust our readers will enjoy.

DESIGN

VOL. 45 APRIL 1944 No. 8

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It is urgent for subscribers to advise us promptly when they move or make permanent changes of address. The post office will not forward magazines and every month great numbers of magazines are returned to us because the subscriber is no longer living at the address given us. In these days of war there are so many interruptions in the pursuit of normal activity and especially in matters of art and education we cannot remind our readers too urgently to keep us informed of changes in residence. We shall do all in our power to see that our friends and readers are served even though promptuous and other matters must often give way. A little patience and cooperation will however see all irregularities overcome in time.

ART AND POSTWAR AMERICA

• The many problems besetting education and American culture of this age are intensified as the world war progresses. The same tenacity of purpose and whole-hearted devotion to the cause of education in its fullest meaning for American youth must be maintained. No limited or meaningless education of the formal sort will suit American youth of post war days. We shall have failed to some extent if we have neglected the all round education of American children. And education now connotes more than memorizing rules and formulas only to be recited for the teacher when called upon to do so for a mark.

Education today which is really looking forward to the human needs of post war citizens, is doing all it can to develop, unfold and nurture all the human powers. The best standards of education sees the human individual with unlimited powers which must develop and be controlled—not only for the full life of the individual but society. The goal is the education of the whole individual and not only his ability to memorize and follow directions.

In this we know that the arts have found a place of prominence. For here is an activity which makes for creative thinking and initiative. Perhaps this is mankind's most valuable power. The arts also give needed direction and discipline to the emotional makeup of the individual so important in every one. And yet this is so often ignored completely to the detriment of the individual. What greater benefit can we expect in times of world upheaval than to keep our growing youth as emotional stable as possible so that physical, mental and moral well-being may be possible?

Physical co-ordination and motivation are another of the important outcomes of art activity for the child. In the formal and traditional school room the problems of discipline were largely a matter of repressing healthy activity. Lessons were to be memorized and tasks were assigned with no understanding on the part of the child. It is not strange that antagonism towards school was general. There was little but antipathy for everything about the school—the teacher did little to understand natural growth of children but insisted on pouring in facts, assigning lessons and repressing healthy initiative. Today's approach is to build school work around situations which are real, a part of life and sufficiently challenging to satisfy a healthy normal being.

Our future calls for a different education and the majority of educators today, at least, know that a new attitude towards proper education of youth means new ways of learning, new ways of operating and new awareness of a great exciting world with much work and richness of living ahead.

Man has always strived to make the world about him beautiful and interesting. This is still a basic factor in the world. And educators now see that this art in living also is an essential in the life of the school. It vitalizes learning. It directs physical and nervous energy into healthy channels—It rounds out the life of youth, the adult and incidently society.

Recent years has brought much to our attentions in regard to the adult education and how much can be done through education to rehabilitate persons, who for some cause or other, had to be adjusted to a way of happy useful living. All of us know what the arts have meant in this work during the depression days in America. One has only to read of the work of such agencies as the Milwaukee Handicraft Project, presented in the February issue of DESIGN to realize this.

Now comes the war and the immediate, vital task of helping the soldiers who have been physically or mentally wounded. The World War I demonstrated the great value of Occupational Therapy in giving peace of mind and comfort to the body of countless human wrecks. This therapeutic use of the arts has been used ever since and found valuable in hospitals and rehabilitation centers throughout America.

Today under the leadership of Dorothy Liebes and other leaders in the world of art a program of ARTS AND SKILLS is being installed under the sponsorship of the Red Cross. It is another proof of the fact that man finds the arts and a participation in creative activity is concomitant with life itself.

Teachers, especially art teachers, must find it within their range of duty to be aware of this major human force. Many of them will be called upon to help, no doubt, as the number of casualties from the war fronts return home. Many outstanding art teachers have already joined that movement to help in many ways; to create ways of working, to devise means of making it possible for badly wounded men to work with beauty, color and good design. Here is a great problem for us all to face.

The proper functioning of art among the children of our schools is likewise an important job. For if art can do so much with mentally and physically wounded soldiers what can it not do for the flowering youth of our schools who will have the weight of the post war world to face.

Art, if it is worthy of a place in society, must mean much more than it has in the past. And this is largely a challenge our teachers must face.

FELIX PAYANT

MURALS AT GRANVILLE STREET BRITISH RESTAURANT IN BIRMINGHAM, ENGLAND

Stockwell Orphanage British Restaurant showing a mural and a corner of the restaurant at mealtime

MEALS AND MURALS

By ERIC NEWTON

● Until recently the artist, at least the modern-minded artist, had been disregarded if not despised by most city and town councils. Now, under the auspices of that enlightened body, the Ministry of Food, with its special art adviser, Clive Gardiner, he returned into a position which, until a few hundred years ago, had been his without anybody contesting it. This process of social re-integration by means of murals is not confined to England. The fascist States, especially Italy, have seen a revival of officially provided wall-painting, and so have the United States, in connection with their democratic Federal Art Projects. However, so much of that government-fostered work has appeared in buildings which the man-in-the-street is only too glad never to enter, or to leave quickly if he has to enter them: municipal offices, law courts, ministries and so on. British restaurants are quite a different proposition. People sit down in a receptive mood, once they have wormed their way along with the queue and secured a seat. They look forward to a half-hour of relative enjoyment. When they look up from their plates, they are ready to take in pleasant decoration—decoration that must not look too serious or too stately. It was thus an excellent idea to commission artists or art schools to paint on the walls what they liked. Nothing of the solemnity of work for a town hall, say, Madox Brown's for Manchester, was demanded. The work had to be cheerful, engaging, perhaps amusing, and certainly not looking as though it were done for posterity. In this the best artists and art schools have succeeded. A stricter aesthetic might be applied by the exacting critic, but as a basis for future better understanding between modern painters and general public, the British Restaurant adventure is most heartily to be welcomed.

Let me state the fundamental case for mural decorations in British Restaurants. The war is in full tide. Manpower and womanpower are in desperate demand. Hours of work are lengthening, leisure is dwindling, "housewife" is an obsolescent term, cooks are unobtainable, midday meals must be prepared in mass, instead of in a million separate ovens, and eaten in mass, instead of at a million private dining tables. A new situation has suddenly arisen and the Ministry of Food has created machinery to cope with it. Buildings have been hastily commandeered or erected to provide the nation with its midday meal. Chairs and tables, cups and

plates, knives and forks have been assembled. The unadorned necessities of life, food and shelter, have been provided.

Obviously that is not enough. Even the dreariest disciple of functionalism would agree that seemliness cannot be divorced from efficiency without impairing efficiency . . . Not that seemliness implies mural decorations. But at least it implies something of which mural decorations can conceivably be a part.

The Ministry of Food, faced with the problem of providing seemliness as well as meals, and also wedded to the policy of making local authorities largely responsible for the conduct of their own British Restaurants, was unwilling to dictate more than minimum standards of decency. It could, and did, appoint an advisor, Mr. Clive Gardiner, to cope with the visual (as opposed to the gastronomic) aspect of the problem: it could not invest him with the powers of a dictator. It would have been fatal to do so.

Even in aesthetics there is a hierarchy. To make an interior visually tolerable must be the first objective: to make it visually pleasing the second: to think in terms of a richer beauty and turn the merely pleasing into the positively adorable the last. Not that these three objectives are to be thought of as separate stages in the adornment of an interior; and if the local authorities and the Ministry of Food, with Mr. Gardiner as their adviser, are willing to think imaginatively at all, they may as well think on the highest level, so as to be sure, at least, of including the two lower ones.

For instance, the first level—the level of "tolerability"—demands two things, cleanliness and good lighting; the second—the level of "pleasantness" demands well-designed furniture, cutlery and crockery, fine lettering where lettering is needed, and color schemes that are at least interesting and, at most, enlivening; these things are essential to the seemliness of any restaurant, and if pleasantness were all, one could leave it at that. Moreover, a good deal of thought had already been directed into these channels during the pre-war years. We have begun to evolve a tradition of good lighting: furniture and cutlery designers have worked hard enough in the immediate past to create a certain consciousness in the average man as to what is a pleasant table to sit at or a pleasant cup to drink from.

But on the third level where the more complex and significant forms of beauty reside—the level of which genius has at last an opportunity to manifest itself—we are without any modern tradition. In order to build up such a tradition, we must start at the bottom of those lower slopes whose summit is the vault of the San Vitale in Ravenna. And, of course, there are arguments against risking the journey. There are the arguments of the Purists who believe that the ascent is bound to end in failure: and there are the arguments of the Philistines who assert that the ascent isn't worth the trouble. Luckily neither the local authorities nor the Ministry of Food took either view. And the idea that British Restaurants might as well add seemliness to efficiency by the introduction of pictures or mural decorations has proved surprisingly popular all over the country. Pictures have the advantage of being portable and the disadvantage of being, on the whole, too small to be effective in a big public room. Mural decorations have the advantage of being permanent and therefore increasingly irritating if they are not really good of their kind. But the instinct that demands one of the two is sound. The fine arts have for too long been relegated to art galleries where they have no more connection with everyday life than mannequins at a dress parade have with everyday women. In a restaurant they become part of the texture of everyday life, and of precisely that moment in everyday life when work is put aside and the mind is receptive. Art, at last, can fulfil its normal function of heightening our visual consciousness without demanding that we should make a special pilgrimage to the temple where it is displayed.

This sudden demand for mural decorations has led to a system of supply admirable in intention but sometimes rather hasty and slapdash in method. No one is to blame. Our best artists, with one or two exceptions, do not think in terms of wall spaces. The instinct for distributing good design over the walls of a room is not the same as the instinct for filling a rectangular canvas. Problems of scale and of spacing, arise. A mural decoration must form an integral part of an interior, whereas an easel picture lives, to some extent, an independent life of its own. Problems like these, solved easily and triumphantly in fifteenth-century Britain. Added to this aesthetic difficulty is the economic difficulty of an acute shortage of funds and the practical difficulty of a relative shortage of artists' spare time. The solution, in most cases, has been to rely on the students of the local school of art, working under the guidance of the principal, and naturally the result has been uneven. The tradition we lack can only be built up by a long series of trials and errors. Sometimes the trials have been successful and often the errors have provided valuable warnings. In one or two cases, notably in outer London, where Lady Clark, under the auspices of the British Institute of Adult Education, invited well-known artists to work in return for the cost of their travelling expenses and material, a fairly high (though still uneven) standard has been maintained. In others the local art schools, usually sadly depleted of students (and those mostly younger than in peace time), have tackled the job with enthusiasm, sometimes backed by imagination but rarely by experience.

The Ministry of Food has given its blessing to the whole movement and offered guidance to such local authorities as care to ask for it. But blessings and guidance are not enough. Money too is necessary: little enough compared with the astronomical sums that are being spent on less creative ends, but some money is necessary before prisons can be turned into palaces, or even into moderately pleasant places. Wherever local authorities have raised the necessary funds the result has been well worth the expenditure. Wherever they have not, either the prisons have remained prisons or some artist has been quixotically self-sacrificing. The equivalent of one farthing on every meal served would probably provide all that is needed.

Finally, one word of warning. An interior is not just a set of vertical wall surfaces. It is a space carved out of space: a piece of abstract sculpture seen from the inside, its surfaces facing inwards. Also it is a piece of living sculpture. Chairs and tables, men and women form an integral part of it. This complex sum of space and furniture and human beings has to be vitalized and welded into a whole by the artist. It is not enough for him to take home a set of small-scale architect's elevations and impose a set of designs on them, instead of sitting in the room to be decorated and absorbing its character. The problem is more akin to the designing of a decor for a play than to the painting of a picture, and the method of approach must be the same. The stage-designer reads the play and absorbs its flavour into his system. Then he shuts his eyes and re-creates it, visually. In the same way, the mural decorator must "read" the room he is to deal with, shut his eyes and wait till it re-creates itself in visual terms, with all its whimsies, its windows and ventilators and awkward corners, its distances, its chairs and tables and lunchers, even its smells and its clatter. The success or failure of the mural painter depends on his ability to work in this spirit. Among the illustrations to this article one senses at once the cases in which he has done so. A new and a sound tradition is certainly in the making. Only lack of enterprise on the part of the authorities can arrest its development.

UTILIZING THE ARTIST'S SKILL

By LEONARD GREAVES

Studied Art at the Chelsea Art School, and history of art at the London University. Lecturer on the history of art at the National Gallery and Tate Gallery until the outbreak of war. He is Assistant Director of the Central Institute of Art and Design, and Registrar to the National Register of Industrial Art Designers.

● Before the war people in Britain thought of artists as strange, impracticable and unconventional persons who gaily refused to accept the orthodox outlook on life, just as the average American regards the residents of New York's Greenwich Village.

This highly romanticized view of artists was responsible for some public bodies approaching them with reticence and even treating them with slight suspicion, so that in pre-war Britain work of industrial designers received less publicity than it deserved. Even the most brilliant and practical achievements in industrial design could not remove public uneasiness about the artist tribe.

The war has happily modified that view, and artists have been revealed as hard-working brush-and-colour craftsmen—trained technicians who are making a distinctive contribution to their country's war effort.

An artist must, in fact, undergo a long and arduous training to become competent; and while learning the craft an art student usually works much harder than the average undergraduate. His apprenticeship consists of not only constantly improving deftness of eye and skill of hand, but of stimulating imagination and acquiring visual memory—a training which finally creates the delicate and subtle colour schemes now being so effectively applied on various war jobs in Britain.

It was not until the formation of the Central Institute of Art and Design in 1940 that the skill and qualifications of Britain's artists and craftsmen were fully utilized for war needs. Since then artists, designers and craftsmen have in increasing numbers won an important place in various kinds of war work.

Early in the war a large number of art students and artists, uncertain about their future, were enrolled as camouflage artists. Right from the start these students and artists worked strenuously spraying airfields and factories with camouflage paint. Later the work was departmentalized and improved; about sixty artists were then taken on by the Home Office for the camouflage of buildings, mainly factories. The Air Ministry, too, engaged some forty or fifty artists of various types, for camouflaging airfields and their environs.

The R.A.F. today have perhaps a hundred artists responsible for mobile camouflage—which is camouflaging planes, autos and other movable objects, as well as operational airfields. In the Army, the Royal Engineers probably employ about two hundred artists on both static and mobile camouflage.

Artists responsible for static camouflage are used for disguising and concealing stores, dumps, army buildings, camps and so on, while those employed on mobile camouflage are often responsible for important work which was so successful in the African campaign.

In all this work, the trained vision of the artist, his sense of tone and colour values, his knowledge of light and shade and perspective, are necessary and invaluable qualities which lend more efficiency to the job.

For camouflage in Britain today is a highly specialized and skilled occupation; its development owes much to the work of wartime artists.

The Services also use the skill of artists for model-making and map and chart drawings. Few artists now so employed were expert cartographers before the war, but their art training made it easier for them to acquire the necessary efficiency.

Models and dioramas used for instructional purposes, particularly in operational units, are, of course, of vital importance for war purposes. Then the Army has mobile lithographic vans so that maps can be drawn in the field and speedily duplicated.

A certain amount of important Service equipment has also been designed by artists.

Many artists have gone into the munition industries, particularly aircraft factories, where they have found scope for their work in drawing offices; a large number of those today producing blueprints in Britain's war plants were formerly women art students.

In the field of propaganda, publicity and advertising, artists are also doing a first-rate war job. In campaigns of different Government departments—To Save Fuel, To Grow Food, To Spend Less Money—the layout artist, the typographer and the poster designer have combined to "put over" official appeals in the most attractive forms. The most effective advertising technique, which pushed-up sales in peacetime, is now harnessed to Britain's high-powered war drive—to defeat Nazi Germany.

Cooperation of exhibition designers, display artists and painters was most successfully demonstrated in Britain's Army Exhibition staged on a blitzed site in Oxford Street (London) in 1943, and seen by scores of thousands of interested spectators.

Another field in which the artist, and more particularly the craftsman, is playing an increasingly important part is in occupational therapy and the training of the disabled. The full effects of this will be even more apparent after the war, when it will be vitally necessary to train the sick, wounded and blind in new crafts so that they may again feel they are performing a useful job in society.

Then again there is the contribution the artist has made to documentary movies—for there he has had wide opportunities.

The wartime activities of Britain's artists would be incomplete without mentioning their part in the campaigns of A.B.C.A. (Army Bureau of Current Affairs), C.E.M.A. (Council for the Encouragement of Music and Arts), and the C.I.A.D. (Central Institute of Art and Design)—three of the organizations which have been primarily responsible for the cultural re-awakening in wartime Britain.

The clay figures in this lively montage were made by pupils of Gladys D. Merrick of the Herbert Hoover High School of Glendale, California and used as a division page for "Muscle Maneuvers" in the school annual, SCROLL

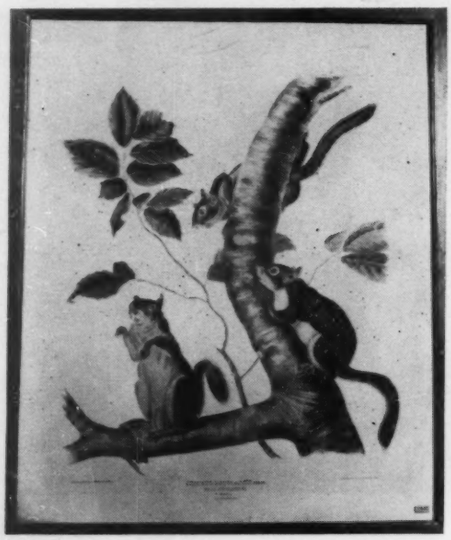
A page from SCROLL, the annual of the Herbert Hoover High School of Glendale, California. The clay figures used in this engenious montage were made by pupils of Gladys D. Merrick and are used here as a "take off" on one of the faculty members.

EARLY AMERICAN PRINTS

• If early New Englanders expressed their intensely serious attitude towards life in what they made, there was bound to be a change. For as we know; by 1650 only one-fifth of the population was Puritan. The ban against likenesses gradually disappeared; a less stern New England began to want pictures. In printed pictures they wanted human interest stories. The lively and amusing side of life. Here was a democratic expression. Many could own prints while only a few of the well to do could have painted pictures.

In 1670 John Foster, native American and founder of the first printing office in Boston, printed a likeness of Reverend Richard Mather from a wood engraving. This was the first kind of picture to be owned by the people. In making these the wood is cut away, except those parts which are to print when coming in contact with the paper. Another type is called a "white line" method in which case lines are incised in the wood in such a way that in printing the lines appear white against the black background.

Paul Revere, a well known patriot and silversmith, was among the first copper engravers. In 1770 he produced a startling picture of the "Boston Massacre" done in line engraving on copper. While this lacked much in the way of good drawing and skill, it was very popular and aroused much feeling against England. A great number were sold. In this method the picture is drawn in line on a soft copper plate. Ink is applied to the plates and the surplus is wiped off. When the plate is in contact with damp paper in the press, the ink lines appear on the paper. In the years before the Revolution at least fourteen engravers were at work in America but the outstanding among these was Peter Pelham, also known for his painting and as the step-father of John Singleton Copley. Pelham introduced America to the fine art of engraving. He made excellent mezzotints. One of the best known is the portrait of Reverend Benjamin Colman. In the mezzotint the surface of the copper plate is treated in such a way as to roughen it. On this "burred" surface the line drawing is made. Other types of engraving including stipple engraving, etching and aquatint were practiced in America. These all involve different methods of treating the plate.

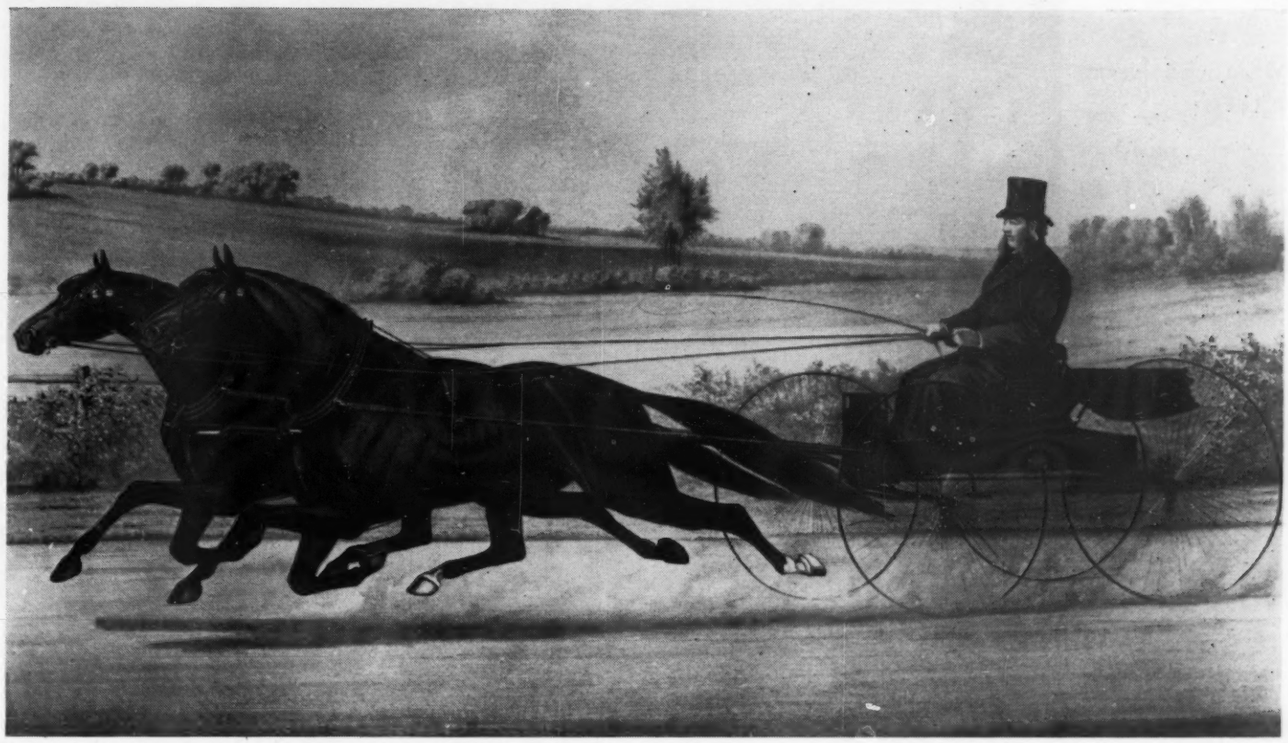


THE QUADRUPEDS OF AMERICA 1844

Douglass Squirrel. Drawn by John James Sudubon. Printed by I. Y. Bowen, Phila.

The early days of the 19th century saw print making going strong. The War of 1812 offered many interesting subjects. The use of soft steel for engraving instead of copper was introduced in 1820. America was in its age of expansion; people were interested in views of this great nation. Portfolios and magazines including interesting prints were published in quantity. Among these was the "Hudson River Portfolio," a collection of prints by John Hill published in 1828. These were aquatints colored by hand. Asher Durand, organizer and first president of the American Academy of Design, published a group of six prints done in pure line called "The American Landscape." He also made engravings of the paintings of birds painted by Audubon. John Sartain, master of mezzotints came to America in 1830 and did many illustrations for books. He owned and published the magazine, "The American Gallery of Art" and "Sartain's Magazine."

An event of great importance to picture-loving America was the introduction of lithography, a method of printing from a lithographic stone on which a drawing has been made with grease pencil. It was to this process and to its exponents Currier & Ives that America owes its wealth of pictures during the 19th century. In 1819 Bass Otis made the first lithograph on record in America for the "Analectic" magazine. Otis made his on a stone imported from Bavaria. Experiments were made with stones found in various sections of America at this time but they were not found satisfactory. In more recent years substitutes for stones have been found. Almost immediately after its introduction to America several firms began the making of lithographs, among them Pendleton Brothers of Boston. From 1819 to 1939, Carl W. Drepperd tells us, there were no less than seventy-five lithographers in America.



MR. WILLIAM H. VANDERBILT'S CELEBRATED TEAM. 1878.
Printed by Currier & Ives, New York

Nathaniel Currier became an apprentice of Pendleton Brothers and by 1835 set up a business for himself. In 1850 he joined with J. M. Ives and for a good many years the company of Currier & Ives became "the print makers of the American people." They realized the intense interest of the people in pictures and selected subjects that went timely, including pictures of the American Revolution, War of 1812, Mexican War, view of various cities, landscapes, ships, western life, railroads, catastrophies and Presidents. In the long period from 1835 to 1885 Currier & Ives produced a pictorial record of the great period of national expansion. Great wars, the building of railroads along with recreation and gayety were all put into pictures.

Interesting books contained many characteristic prints. The two volumes of "The Cabinet of Natural History and Book of American Sports" published by I. and T. Doughty contain forty-eight lithographic prints. During 1839-41 the "United States Military Magazine and Record of the Volunteers together with the Army and Navy" was published by Huddy and Duval. It gives a colorful and accurate record of the period. Godeys Lady's Book was first published in 1830. It was devoted to those feminine subjects and contained interesting prints.

With the machine age came perfected methods of printing and the color printing processes until every home in America was able to have many pictures, illustrated magazines and books. In the Victorian age a certain type of colored lithographed picture was very popular. These were known as "Chromos."

It was from printed pictures in magazines and books made by well known illustrators as well as from reproduction of the world's great pictures that the great mass of Americans were to satisfy their desire for pictures. This naturally gave rise to the profitable profession of illustration to be used with stories, advertising and other printed matter; most of these being in the idiom of the people. Closely akin to this is caricature and cartooning.

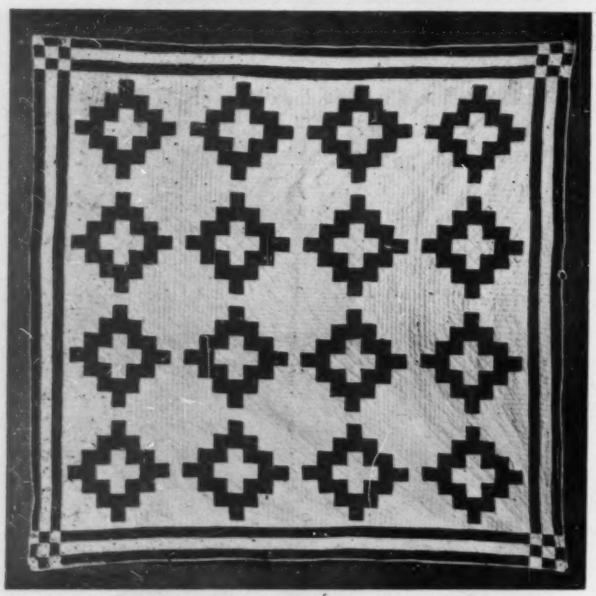
In later years, however, there has been a strong revival of interest in prints of fine quality made by outstanding print makers. Among these should be mentioned Joseph Pennell and his series of etchings of the Panama Canal. And of more recent date was George Bellows who made lithographs of high merit. Other contemporary American print makers are finding an important place for themselves in American life today.

Portrait of AFONG MOY 1935. First Chinese Lady ever in the United States.
Printed by Risso & Browne, New York.

When the Hempfield Railroad was built as a branch of the B. & O. the event was recorded in a coverlet.

EARLY AMERICAN WEAVING AND TEXTILES

by Felix Payant



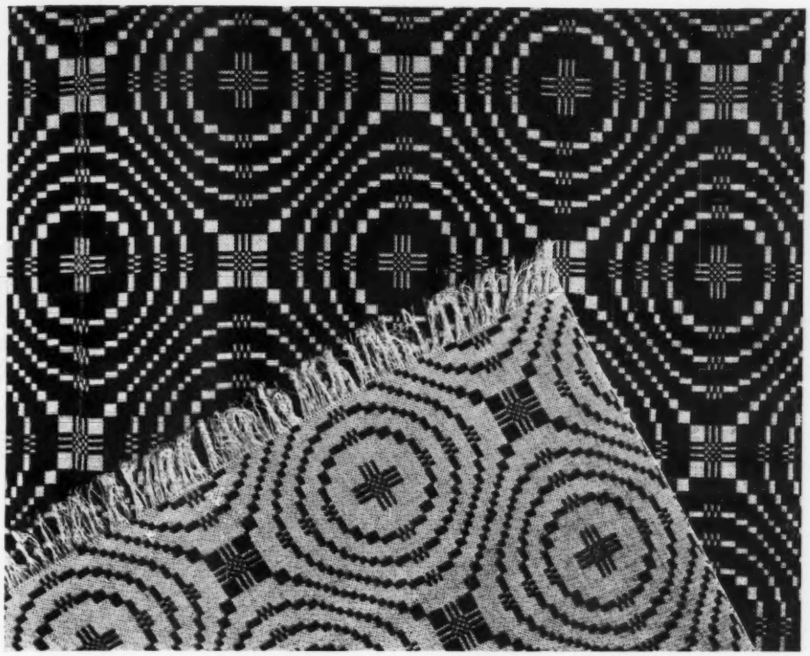
No more interesting and democratic art than the making of quilts has ever thrived in America. This is one of those based on squares. Others were made of many different shaped pieces while still others were appliqued.

• America owes much to the loom. Weaving of textiles is one of the arts which has been so close to the lives of men that the date of its beginning is older than history. The first weaver in America was very likely some fair housewife who brought this art over with her on the Mayflower. The many different nationalities who colonized America certainly must have each contributed something to American weaving. We owe much of this inheritance to the Dutch of New Amsterdam, the Germans of Pennsylvania, the Scotch in the South, Irish in New Hampshire and much to the English Puritans of New England.

The first settlers in America found almost no fiber from which they could weave cloth. There was no wool, silk or flax. With the exception of occasional cotton plant in the south, there was little encouragement for them. Of course, deer hide was used at first but this is cold and stiff in winter and warm in summer. Naturally the first settlers along the Atlantic coast, began by tackling the problem of food, shelter and actual preservation of life. But they soon tried their hand at making spinning wheels and looms with which the women could weave flax and wool into clothing. Flax seed was sent from England and was sown. In order to have wool, sheep had to be brought from Europe. Even the settlers of Jamestown in 1607 brought several heads of sheep. Since the early American home was of necessity a busy workshop where everything needed for the family was made, spinning wheels for making yarn and looms for weaving cloth had prominent places there. They were necessary equipment in practically every home.

Weaving was a leading household industry in colonial days; almost every housewife could do simple weaving and carry on the necessary processes that went with it. The colonial women wove on a loom much as weavers have always done. Large quantities of linen were woven in the colonial home, usually plain weave for sheets, table cloths and in greater length for making clothing. Decorative effects in weaving and color were used especially on towels. Woolens were the answer for blankets, dress goods and men's clothing. Colonial women knew the art of preparing vegetable dyes from nature which were beautiful and permanent.

In 1695 we learn that a shop for weaving worsteds was started in Boston by John Cornish. This meant little more than a number of hand looms assembled in one large room. By 1700 the New England



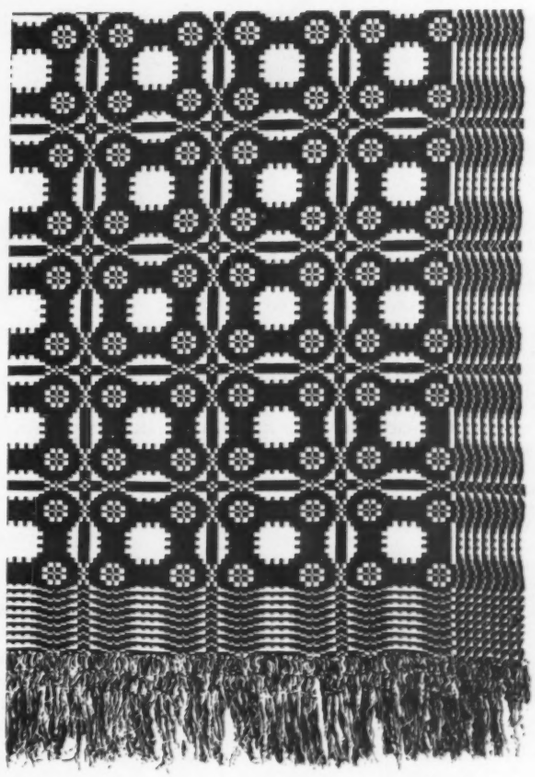
● A typical early American coverlet showing the two sides of the design. This type of weaving is known as "summer and winter." The introductory of the complicated Jacquard loom turned the attention of many hand weavers away from the simple sturdy designs. The Jacquard loom was operated by professional weavers and produced elaborate pictorial effects.

colonies were well established. The Indians were no longer a problem. The Dutch and the Swedes had given up New Amsterdam on the Hudson and New Sweden in Delaware. Life in general passed beyond the log cabin stage and a comfortable way of life was established. In many homes the housewife wove cloth for family needs and sold the surplus. There were other homes in which there were looms that were used only when the journeyman weaver made his visits. For just as there were itinerant painters who went from place to place, there were itinerant weavers. And as one can imagine these were welcome for more reasons than one since they brought the latest gossip from house to house as they made their rounds.

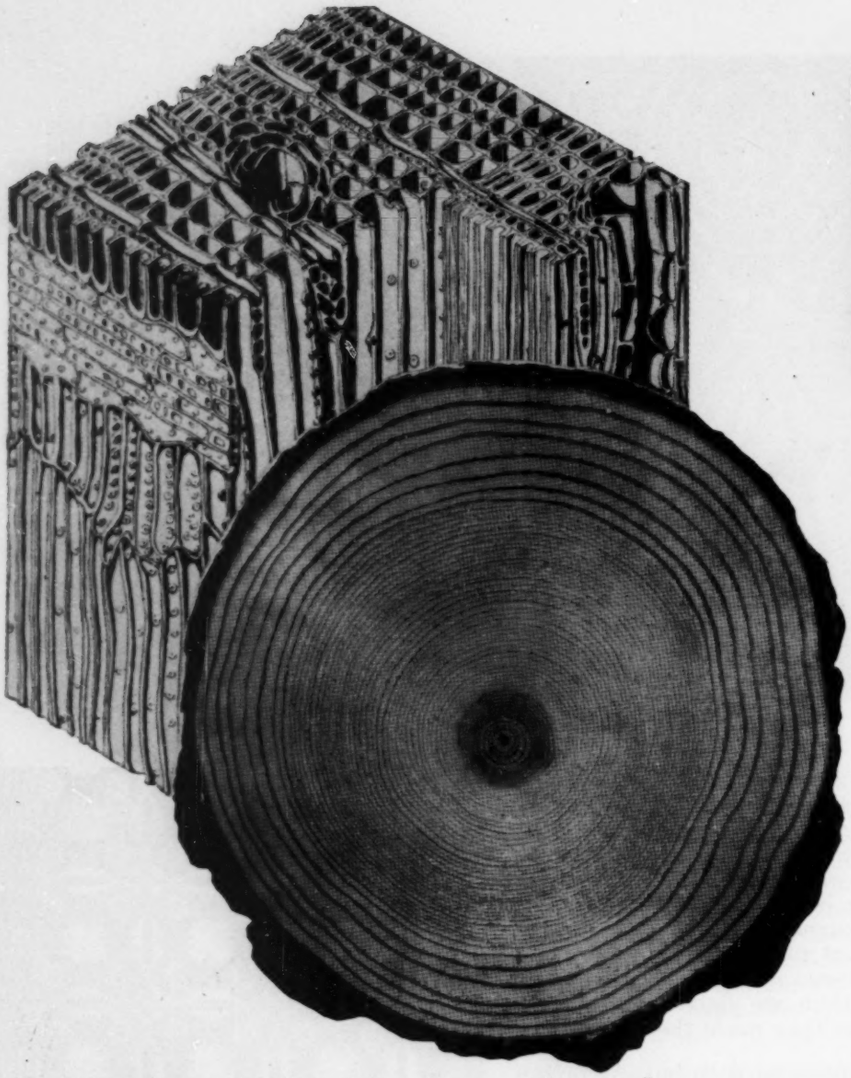
In 1763 in keeping with the strong movement to buy American the graduating class of Harvard agreed to receive their diplomas in suits made of domestic weave. Weaving became an outstanding American art and the designs were numerous with amusing names growing out of life. The early textiles were suited to American living and expressed the spirit of America as no other art can.

In 1733 John Kay in England invented the flying shuttle which made weaving more rapid but robbed it of some of its art qualities. In 1784 Cartright invented the power loom and paved the way for the factory system. In 1783 Eli Whitney in America invented the cotton gin as every school boy knows, and increased the production of cotton one hundred fold in seven years. In 1826 the first Jacquard loom came to Philadelphia. This loom with its complicated system of warping made it possible to weave elaborate curved designs of flowers, buildings, human figures, etc. Housewives, naturally, were much impressed by the Jacquard loom and liked it so much, in fact that they began to lay aside their own looms. Finally the machine took over and the art of hand loom weaving was lost in an age of confusion. However, it did survive in certain remote regions as in the southern highlands. Much credit goes to a few tenacious souls, particularly Weaver Rose in New England, for preventing a complete fadeout of an important art.

Recent years have seen a rapidly growing interest in the art of weaving and a keen appreciation of the textile art. Modern industry, as in other fields, needs the textile artist for the purpose of controling the appearance of the machine made product. Such artists as Dorothy Liebes are leading the way to more unified action between the artist and the machine. Today the textile industry is one of the biggest ones in America.

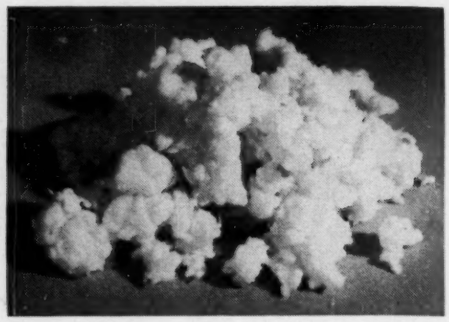


A handwoven coverlet from the Pennsylvania German region now in the Pennsylvania Museum of Art, Philadelphia.



The picture above is an enlarged view of a group of wood cells as seen through a microscope.

Trees add to their growth by building each year a new layer of cells around their trunks just under the bark. By counting these rings we can determine the age of any tree.



When the lignin in wood is dissolved and the cellulose made flexible through chemical treatment we have a fluffy substance which looks like cotton and contains the same ingredients.

WOOD

This article is from the booklet entitled NEW MAGIC IN WOOD and is published here with the permission of American Forest Products Industries, Washington, D. C.

● Man has always depended upon wood. It was the fuel for his first fire. It was the material for his first weapon—the club. It was also the material for his first machines—the lever and the wheel. Man's first ride was probably on a log floating in the water. As man learned to make use of tools, the things he made were wooden things—a hut, a bench, a chair, a bed, a table.

Before history was written, man has learned many ways in which to make wood more useful. The men of ancient times knew how to season wood to increase its strength. They invented the tools with which to hew, saw, or carve it into the shapes they wanted. They found ways to cut and polish fine woods to bring out the beauty of the grain. The ancient Egyptians conserved their rare and beautiful woods by slicing them into thin veneers which they glued to more common woods of lesser beauty, just as furniture makers do today. In early America the Osage Indians pruned young orange trees so that they would grow into straight-grained sprouts which were free from knots. When these orange sprouts had grown large enough they were made into strong bows for weapons. We read about the Stone Age, the Bronze Age, the Iron Age, and the Machine Age. These Ages mean that during those periods man developed a certain material to the point where the things made from it gave everyone a better living. Through each of these Ages wood has been so universally used for so many things that each Age might have been given a second name—the Age of Wood. Now we find that trees can produce many materials other than wood and that, in spite of centuries of service, we may expect in the years immediately ahead such an advance in the use of materials from trees that we will have a New Age of Wood.

Man has always liked to work with wood; in the forest, clearing land and building houses, fences, and shelter for his animals. Indoors he has sawed and hammered and planed and carved and fitted and glued to build cupboards and bookshelves and tables and toys for himself and his friends to use and admire. Many times, simply because he likes the feel of wood, man has just sat with a stick and knife in his hands and whittled.

But now, after centuries during which wood has been used

Early American colonists, who built houses like this, appreciated the rich forest lands of their new home because in the old country wood for new homes was difficult to obtain. This is still true.

at one time or another to make almost every item invented by man, science promises to increase the value of the forest harvest by giving wood many new kinds of work to do. Scientists, seeking to replace raw materials made scarce by war, have found that they can, through new processes and operations, make wood over into many kinds of materials which we might not readily recognize as wood.

And, today the lumberjack, forester, and scientist work together toward forest conservation. Sound forest management combines their efforts to use the forests in the most varied and economical way possible to the advantage of the Nation, and to seek a perpetual supply of forest products. To a scientist, the most interesting thing about wood is the material of which it is made. The scientist in his laboratory has learned that all plants contain just about the same substances. Sugar beets, grain, corn, cotton, grass, trees, and even coal and petroleum, are made of the same substance.

Do you wonder why coal and petroleum are listed with such things as beets and cotton and trees? Coal and petroleum are deposits of vegetable matter which have lain in the earth for thousands and thousands of years. The change from living vegetable matter to coal or petroleum requires tremendous pressure, such as may be found only deep under the earth, and the process takes an almost unbelievable length of time.

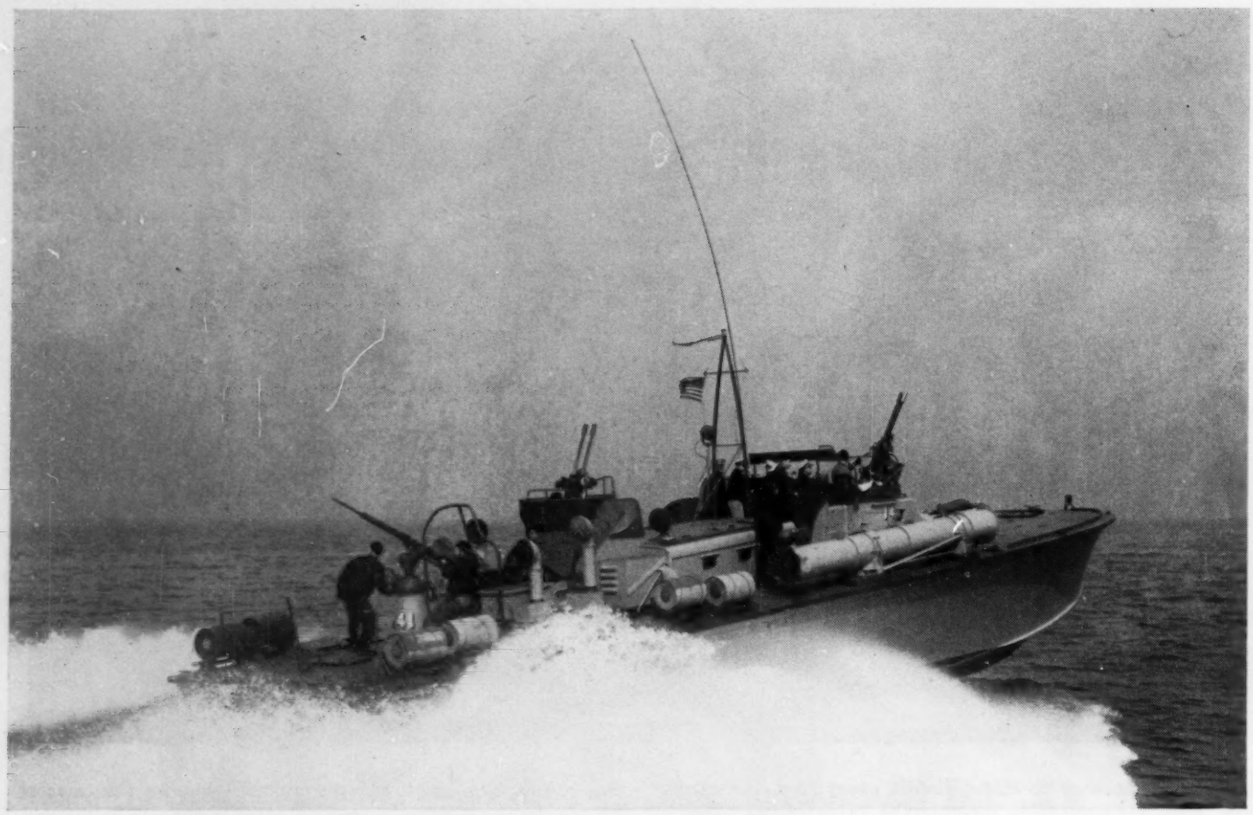
By distilling coal and petroleum in different ways, scientists are able to produce different kinds of materials. Since wood contains all of the necessary substances found in coal or petroleum for the making of these materials, scientists are now making many different products from wood—products which do not look like wood. Although such products as rayon and plastics are unlike wood, they contain the same substances as wood. We say that a telephone pole or a chair is made of wood. We can say that a rayon stocking or a plastic radio cabinet is made from wood.

A tree, like every other living thing, is built of cells which have thin, pliable tubes as fine as or finer than a human hair. They give strength to the tree.

About two-thirds of all wood is cellulose. The other third is a substance called lignin. Lignin is a binder, a material which holds the cellulose cells together. You will hear much about these two substances in the future. They are sometimes called the magic twins of the forest, for it is from them that we are making many new products.

Cellulose is found in its purest form in cotton. The cotton boll is almost all cellulose. If you have ever seen a cotton

Modern streamlined thermos jugs have wood cases.



Many of the famous "PT" fighters are built of plywood.

boll you know that it is made up of many thin fibers. These are somewhat like the cellulose fibers in a tree, except that in the cotton the fibers are not bound together by lignin. Although the cotton boll is nearly all cellulose, in certain regions, one acre of land planted in trees will produce five times as much cellulose each year as an acre planted in cotton. Wood cellulose when treated with different chemicals, is changed into many products such as gunpowder, paper, photographic film, alcohol, rayon, cellophane, imitation leather, lacquers, glycerine, plastics, felt, sugar, molasses, yeast, and food proteins. One of the most important forest industries is the manufacture of paper. The paper from which these pages was made is a product of the forest. The material in the paper, cellulose, was once in a tree.

After the tree was harvested it was cut into short logs, or bolts. These were put into a machine which rubbed off the bark. Then the logs went into another machine which chopped them into fine chips. These chips were cooked in a vat with chemicals to separate the cellulose from the lignin. The resulting pulp was washed and re-washed. Then it was drained, leaving a thin, wet, mush-like mass of fibers. The pulp mass then went into a beating machine which cut the cellulose fibers and mixed in colors and binders. From the beating machine the mixture was pumped onto an endless fine mesh screen where it formed a continuous layer, moving from the screen through heavy rollers which squeezed out water and smoothed the layer. Passing over hot rollers, the wet layer was dried and became paper. Its surface was smoothed by other heavy steel rollers and it was wound into rolls from which it could be cut into sheets.

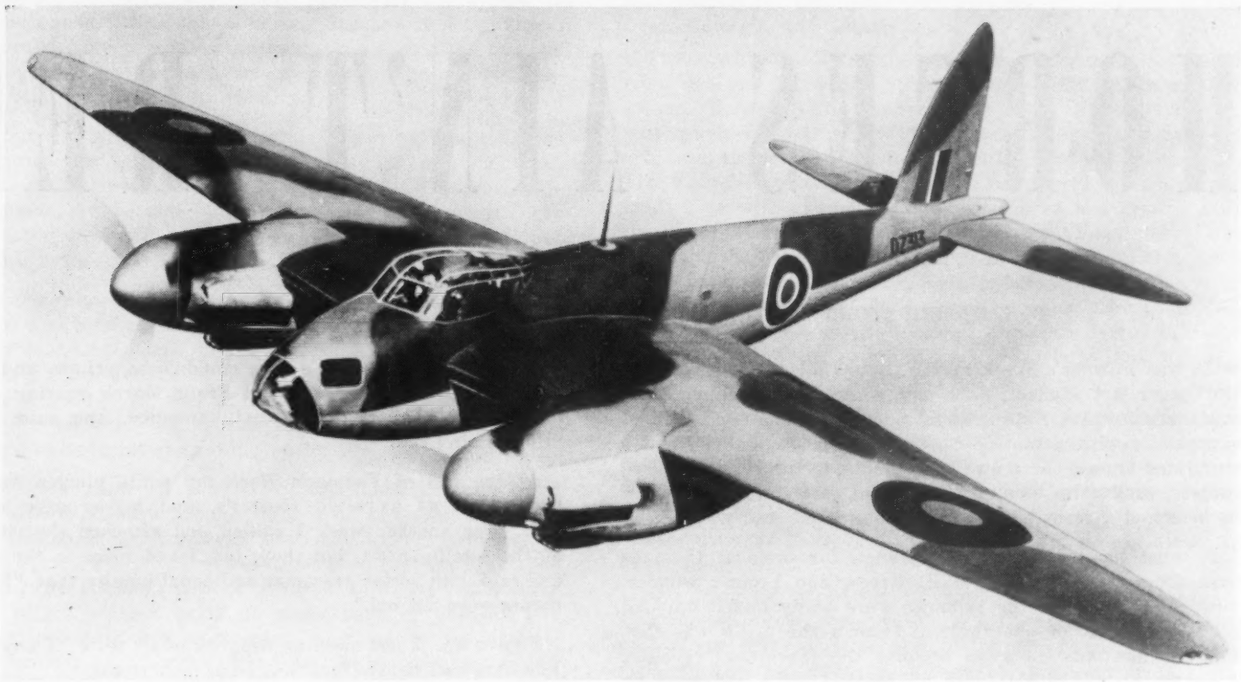
Wood cellulose in pulp form has many other uses. Put into solution and pressed through tiny holes under high pressure, it is spun into fine rayon threads which find many uses in the manufacturing and clothing industries. An important use of wood cellulose in war days is in explosives which fire big guns; in cord for heavy-duty truck and airplane tires; in linings for self-sealing gasoline tanks; in lines for parachutes; and in light-weight rayon clothing for paratroopers.

It is natural to wonder how man ever came to think of making paper from wood. The answer is that the wasp showed him how to do it. The wasp, nature's paper manufacturer, uses this product for his nest. The wasp makes paper from wood by chewing it to a fine pulp which is then spread out in thin, closely matted sheets and allowed to dry.

Although scientists have learned much about cellulose from their work with paper and other cellulose products, lignin is still something of a mystery. But scientists do know that lignin is a tough durable substance which holds the tree together. Not needed for paper-making, there have been few uses for lignin. All that the paper manufacturer wanted from wood was the cellulose. Now lignin is being saved for use in tanning leather, as a binder in mixing concrete, as a water softener and for an increasing variety of new uses. Vanillin, which is used in the flavoring of ice cream, can be made from lignin. Lignin is also used as a base for fertilizer.

Soon after the Second World War began, lignin became useful in the manufacture of plastics which are being used for bomb fuses and shell cases and in instrument panels for airplanes, ships, and tanks. It is also used in the cases of storage batteries.

When most of the important metals were taken from civilian use and put to work to win the war, plastics came into wide use. Your fountain pen is probably made of plastic. So is the instrument panel in your car. One of the first plastics was celluloid, made from cellulose. The first cellulose used in the making of celluloid was obtained from cotton. Now many plastics are made from both the cellulose and



Plywood bombers are light. They carry heavy loads and are among the fastest airships in the world.

lignin in wood waste. Thus, what was once a waste material is being made into something useful.

We now have plastic jewelry and plastic dishes. Your telephone, your radio cabinet, most of your electrical equipment and many of the handles on your kitchen utensils are probably made of plastic. Wood may be an important part of your family automobile. The body, including the windows, may be all plastic. The tires may be made of Buna rubber, which can be made from alcohol distilled from wood. Even the fuel burned in your car may be wood gas rather than gasoline, or alcohol made from wood.

Throughout our history, until very recently, man has been limited in what he could do with wood. He could cut it across the grain and change long pieces into shorter ones. He could cut it with the grain and change thick pieces into thinner ones. He could bend it or carve it and thus change its shape to satisfy his need or tastes. He could smooth it, polish it, stain it, and paint it. Now, thanks to modern science, he can make thick pieces of wood from thin ones, and he can make long pieces of wood from short ones.

With devices called timber connectors, we now fasten short lengths of timber together, end to end, so tightly that the resu'ting piece is as strong at the joint as at any other part. The same effect can be obtained through another process called lamination, which means laying in layers. Wood pieces are glued together with the grains of the different pieces running in the same direction. Something of this sort had been attempted for centuries, but a thoroughly satisfactory result had seldom been possible because good durable glues and binders have only recently been developed through scientific reasearch. Many binders used in lamination are themselves the products of wood—chiefly lignin and resin.

Probably the chief use of these new wood glues is in making plywood. Plywood is an example of making thick pieces of wood from thin ones. Plywood veneers are made by turning a log on a lathe against a long, sharp knife which peels the wood off in a thin ribbon, as wrapping paper is pulled from a roll.

The strips of thin wood are cut into sheets. These, in turn, are spread with glue and placed on top of each other like a great sandwich, the grain of each sheet running across the grain of the sheet next to it. This makes the board equally strong in either direction, because wood is as strong as its grain. The wood-and-glue plywood "sandwich" is squeezed and dried in a press. Until modern plywood was invented, no board could be wider than the tree from which it was cut. Now there is practically no limit to the width of a plywood board. Some plywood is used as if it were a metal—for bathtubs, tanks, oil drums, airplanes, and boats. The plywood used in making airplanes is as strong as some steel and lighter than aluminum.

Another product similar to plywood is made by soaking sheets of wood with raw resin, piling one upon another, and placing the combination under great pressure until the resin has set. The resulting product looks like wood because it has a grain like that of wood; but it has been changed by the pressure and by the resin which fills its cells to a harder, firmer, heavier substance capable of many new uses.

Even paper may be soaked with resin and pressed. The result is a product half as heavy as aluminum, yet strong as steel. When this material is used in airplanes it needs no special finish, it is not affected by salt water, and it does not splinter or tear when pierced by a bullet.

One recent remarkable scientific discovery is a special treatment which softens wood to the point where it can be bent easily into any desired shape, even tied into knots, or kneaded like putty. Then when the treated wood has been dried it becomes almost as hard as iron and holds the shape to which it was bent or molded.

Among the many new wood products with which scientists are experimenting, and which they hope to produce in commercial quantities, are shoes. Lighter and more durable shoes with wood-fabric soles and wood-pulp uppers are promised. The uses of wood in the life of man have always been important and the future promises much that is new.

HORSES AIN'T RED

By ELIZABETH LYONS

● It was Farmer's Week at the State College, and I, a thin and eager art student, with my white plumes flying, was crusading for Art Appreciation among the masses. I carried a portfolio with a motley collection of reproductions, and I circulated among the crowd of students, lecturers, vets, horse dealers, seed sales men, teachers, and farmers, asking them to look and please tell me which they liked, and why.

It must have been a little strange for some of them to turn from seed potatoes to El Greco, and I don't wonder, now, that a few of the remarks were badly mixed up. All I could get out of one fugitive from a sheep dip was that the Cezanne was no good because the fence was crooked. I lightly dismissed him with an amused smile and went on to a more respectable pair of overalls, but slowly, and with numbness, I began to see that the interviews were all one pattern. No matter whether the hands that held the pictures were brown, or rough, or white, or smooth, the colored prints fell into two piles. In one were my favorites, the strong vibrant Van Goghs and Gauguins, a beautifully designed Cezanne, a twisted El Greco, and others. They were the absolute discards. The opinion was that they weren't even fit to be hung in a pig sty. In the other pile was dropped a Titian, Vermeer, Whistler, and many nameless ones. Some were good, and some, I thought, should be hung only in chicken coops. But, this is no time to heat up an old bitterness.

I had asked each one to pick his favorite picture, and to tell me why he liked it, or thought it was good. It wasn't long before one reproduction was covered with loving thumb prints. Such a picture! It was a sweet, thatched roof cottage seen from a rose covered hill, in the sticky, pinkfingered dawn. I had cut a line from the bottom that said, "Compliments of Carper's Meat Market. Phone 4703 For Prompt Service."

For a week I listened with downcast and incredulous heart to the art reviews.

"Ain't it beautiful . . . and it looks so real. I like hills."

"It's so peaceful. You ought to appreciate things like that."

"It reminds me of my grandmother's place in Pennsylvania. She has the most beautiful roses, and she don't do a thing to them, they just grow wild."

"Don't it look real though. You can fairly smell those roses."

When my cup of dismay over ran, and I couldn't bear another happy voice, I asked them what they didn't like about the discarded pictures. The rough and colorful Van Gogh made them especially furious.

"Ain't it awful! That man can't draw at all, and look at that green smeared all over the face. He must be crazy."

Sometimes they would admit that the colors in the others were "nice," but, a man's face couldn't be yellow, and sand never was pink. Children liked Franz Marc's rearing, dancing horses, but the adults only frowned, and said flatly, "Horses ain't red."

At the end of Farmer's Week my white plumes were as bedraggled as a pelted rooster's, and my crusade was a rout. For another week I rallied and attacked the citadel's of the intelligentsia, but they, too, loved roses in the dawn, and said with better grammar and equal inanity that, "Really, horses were not red."

I gave up. I had slain no dragons of ill taste; if anything, I had crystallized the local hatred of modern art.

That was long ago. I am older and mellowed with compromises, now, and a few of my friends have Van Gogh's "Sun Flowers" hanging in their sun rooms. He has been dead for over fifty years, but he is still modern art for most people. The present art form hardly exists for the average man. My friend, Walt, is the type that would insist on his house, car, and clothes being strictly up to date, but he goes around quite comfortably with his grandfather's attitude about art. Walt dislikes the severe and exaggerated design of the new Post Office mural because it is "too modern."

Modern art evidently does not directly appeal to the emotions, but, is that a fault? After all, we pride ourselves on our complex natures. Art portrays the age in which it is created. This is a time of intricate confusions, of speed, and subtle rhythms, and art must struggle and take on bizarre forms in order to interpret this mode of civilization. No man can understand that interpretation without study and thought; and there are few men who will believe that. Over and over again, I have heard someone say, "I don't know a thing about art, but I know what I like." Secretly, he doesn't, for an instant, think that he really doesn't know anything about it. He can see it, can't he? It is as logical as though he were to go into Russia, and because he is not deaf, be able to understand all the speech about him. Russian can be learned, I understand, and so can modern art. The stark, harsh forms that so offend the unlearned eye did not spring up arrogantly, without warning. They are a part of the long history of art, and as gradual and as inevitable as growth in a man.

Art has not always been that realistic snapshot of a story the sentimental person likes so well. There were times in the civilizations of Egypt, Greece, and Europe, when art deviated as far from a realistic style as it has today. The natural animal statuettes, and portraits found in Egyptian tombs prove that the artist of the Pharaohs could mimic reality, but the symbolic friezes and the conventionalized designs show he knew the other face of art. The Greeks exaggerated the perfection of the human form to as great an extent as we exaggerate the imperfections. One way may be more pleasant for the observer, but art is not a sedative.

Even in the Biblical illustrations of the Renaissance, men

like Giotto, El Greco, and others painted in a distorted or stylized manner. El Greco was long accused of astigmatism by short sighted persons who could not see that his twisted, flamelike figures had a connection with the Renaissance man's hungry search for spirituality.

In the eighteenth and nineteenth centuries, the religious fire burned less fiercely for the ordinary man, and his thinking began to be wrapped up in a delicate and narrow code of manners. Art became stiff, or sweet and well tamed. There were some interesting rebels like Blake, and Hogarth, but they are more loved today than they were in their own age.

The road changed in the middle of the nineteenth century. Science was conflicting with religion, industrialism was making social changes, and in the field of art, the camera was challenging the artist's ability to reproduce a scene. Corot put up a good fight, and if he won, as many claim, it was an empty victory. Some other way than imitation had to be found to interpret an exciting world.

The spark came in the latter nineteenth century when trade with the Orient brought in a flood of Japanese prints. Those simple, colorful designs had an enormous influence on the artists of the western world, because for the first time in many generations it was realized that art could have sound values without being an exact copy of nature. The Chinese and Japanese paid scant attention to the conventional manner of drawing. They had little perspective, and no smooth shading; yet the prints were rhythmic, harmonious, and as exciting as new music. It was the direction in which Cezanne had been going when he said, "I do not reproduce Nature; I represent it."

All over Europe, art was leaving the Victorian cloisters and finding a more empirical approach to life. Already, Italy and Germany had several groups who explored through science, the physics of motion, color, and form. And France was leading the emotional way with the expressionistic Van Gogh, Gauguin, and Cezanne.

The World War I was the period that separated sentiment from realism. Life had no worthwhile past and a cynical future. What was the answer? The artist, at that moment, was convinced that a new world must have a new form of art, and so he experimented violently, and often wrongly. The Futurists wanted to paint the essence of motion. They made dogs with as many feet as centipedes, and figures with the hundred whirling arms of Persian mythology. The Cubists said that forms and colors were the foundation stones of art, and they could stand alone without the trimmings of natural representation. Bach, and Beethoven, they protested, did all right with abstract sound. Dadaism delved into the interpretation of the subconscious mind, where Dali, its high priest, is still charting the murky depths.

These were the seeds of modern art. From them grew the theory of honest form, structure, design, and meaning, that is the basis of art, today. But, the average man was so upset by the unorthodox, and ugly, styles that he immediately condemned both artist and art. He did not stop to think or even learn that most of it should be judged as **experiments**, not as finished art.

Art, being the expression of mankind, is like man himself. You cannot reinvigorate an old man, nor renew a decadent art. A new form must be born. Often the form is lusty and vigorous but awkward to all except its progenitors, and, often the despised grows up to respectability.

Art, as a whole, is never finished. It flows in a continuous stream from the beginning of mankind, with its surface reflecting the story of every age through which it has passed. The story is in symbols; even the most realistic mimicry is only a painted symbol, and the man who stands in front of a work of art and says, with smug finality, "Horses ain't red," has not learned to read them.

SCENERY FOR "KING'S GARDEN OPERETTA," Painted by Grade Four, University of Chicago, Elementary School.

Children in the elementary school of the University of Chicago learn to cooperate by the group planning art projects. Edmund is putting the last touches on his lions. Karen is finishing her wolf hound. Children tried to think of everything a King might have. They worked very hard on the nude statues and many children helped with the rose trees. Small roses were made and pasted on the trees. Marilyn, Jill and Susie are painting large flowers to paste on some places where they need more color.

SOLDIER-ARTISTS IN HAWAII

By CPL. HUGH BROWNE PAVEY

● Most of the service men in the islands of the Central Pacific are forced to concentrate hard and fast on learning bloody business. Nearly all are students in this advanced course of training. The soldiers, sailors, and marines in service in these islands have moved far enough across the troubled waters to learn War isn't kidding. They train and know they will move to other island stepping stones across the coral rim of an unknown land and its moments of hell.

The man with leisure to pursue his creative urge or the call of his talents is an exception. With a pause for deepest reverence for those others with less fortunate chances, we shall turn and focus our attention on the art opportunities for these exceptions in service in the Central Pacific area.

As in all phases of endeavor, the requisite for art and its creation depends upon the creator and the flow of the spring within him. Here, under his present condition, more than ever and practically completely he must depend on that flow. His encouragement is of the sort that comes from within his own soul. There is little of any other form. There is little of the comfort of praise. There is little of the reassuring or guiding hand of a teacher. There is little chance for a showing. There is little of anything pertaining to constructive criticism. The man is on his own.

Perhaps in this singular fact there is much that is good. When a man is forced to fend for himself without the influences of a teacher or the study of another craftsman or an ideal, his resultant groping, if he has the necessary amount of ambition to continue his blind endeavor, may guide him into discovering he holds the power of expression in a style of his own. This same final discovery may be brought to the individual who never before hesitated quite long enough to find he had any art in his soul. When a man devises his own rules for attaining an aesthetic result with ease and skill, he learns he holds power in his hands. An artist has been born.

In these island pieces of Paradise the embryo artist, or the one of experience, finds a direct challenge to his power of expression. He is living in a new world; one where the colors, the contours, and the characters countenance him with a dare. To see roseate mountains purple-shadow-patterned at dawn; to see a twilight when the sea and the hills and the sky are varying tones of a luminous green moves any man to an ecstasy which even the dullest attempts to do honor with words. The artist or would-be one grabs for his brushes. A pink and purple mountain on an horizon is one thing; on a piece of canvas it is something else. Shining green twilight skies may be heavens over which to marvel; when expressed in paint the result might be interpreted as an opium smoker's dream. The most experienced craftsman must at times indeed be baffled when he sees his expression in a gold leaf frame.

In this atmosphere there might be said something for an Oriental characteristic in painting and drawing. There is a secret there which some of the soldiers, sailors, and marines have discovered for themselves without knowing it is a trick which has been employed for centuries and at which the Orientals are masters. It is the artistic value of picturesque space. The gentleman in an American uniform is of an era which has for the most part too long forgotten this. It is a good reawakening. When a Wisconsin Corporal from an engineering drafting section tried his hand at a less scientific art he was mystified his depiction of a placid and beautiful lotus pool should seem alive and crawling with blooming things. With his second trial to recapture the same mood he was amazed one lotus bloom, well placed, was sufficiently capable of repeating what he had to say of his reaction to the serene little pool of water lilies. Another soldier, a Pennsylvania Sergeant, found two i-a kihikihi fish in a coral underwater cavern were far more effective than the too numerous blue and yellow stripes he saw in an whole school of i-a kihikihis. This is not unlike the Oriental manner of saying so much with a few simple shafts of bamboo—or with only the part of a mountain—or a single curl of a wave in a sea; the final outcome of a single lotus blossom in a pool was an American's picture with what seemed like a subtle Oriental flavor. It was different. It had something to say and it was said with style. And the Corporal had said it by himself.

A point which might seem irrelevant, but isn't, is the fact these small lands are completely under military supervision and every crag may hold some forbidden military secret. If the uniformed artist attempts to portray any landscape or seascape too literally he may find his efforts forfeited and himself making formal explanations to a censor. Here again a hint proves to be better than the whole. The military powers are quieter. The picture is a better work. The artist is happier with his final result.

The Academy of Arts in Honolulu concentrates on doing what is within its power to create a temporary background for the interested of the never ending traveling hordes of warriors. A Service Men's Lanai is comfortably and attractively furnished. There in a quiet and pleasant tropical atmosphere—luxurious and easy—paints, brushes, and canvas, pens, pencils, and paper are provided and there for the use of the service man at his will and without his asking, for as long as the gallery hours are available to him. The unfinished products of these momentary artistic indulgences are frequently left behind. With these the academy hangs a constantly changing show on the walls of this same Service Men's Lanai. Untiring attempts have been made to form classes with a model and teachers for the service man. Interest is never lacking, but organizations of the armed forces have ways of suddenly being moved almost simultaneously with such formations; and it is difficult for the man to arrange for his free time to coincide with any scheduled class time. There have been several one-man showings of the works of service men in the galleries. These showings have been the work of men who as civilians were in the professional class.

Over the always scorning elements of time the professional has some advantage. His years of experience make it more easily possible for him to express himself with the access of what he finds available. He should be more able to put down something in which the rudiments of experiment are transposed into that illusive something called quality. The man who can do this with any degree of facility is generally the one who knows the steps and short cuts to arranging a showing. The Academy of Arts is hardly in the position to find these itinerant artists. It is up to the artist to find the gal-

lery. The professional artist understands this. When he has something of worth to offer, the academy is ready with encouragement and to do what it can to share that benefit by means of a showing. Every phase of art which might possibly be of interest to the service man is liberally advertised by the Academy of Arts with an appeal to that interest.

The man who has made a living from his art may continue to sell his wares providing they are free of military secrets and censorship agrees. To look at Life is to prove how far publications have come in recognizing the merits of a military scene when depicted by an artist. Life, probably more than any other publication, has benefited the artist and at the same time displayed to the world what a warrior sees in the Pacific Ocean areas.

There are other crafts open to the ex-professional. The Special Services Division has stage set and costume designers with marked talent who have been fortunate enough in their military assignment to be able to continue working in the field they have chosen as a career. Sergeant Paolo D'Anna designed the costumes for the Special Services Division's soldier production of Macbeth, starring Captain Maurice Evans and Judith Anderson. It would seem his fame might be far reaching by the time peace calms the earth. For Macbeth his designs and color groupings were superb. They surpassed the costumes of the much and worthily heralded Broadway production with the same two stars.

When the Special Services Division produced Night Must Fall the curtains parted on a set as suggestive of the interior of an English cottage as any set in any theatre in New York could have been imparting the same idea. Private, first class, Frederick Stover made his suggestions with far less in the way of material.

Hospitals have devoted marked attention to occupational therapy. Here, it is perfectly natural for the patients to desire to create something with an island flavor. With the material at hand it is comparatively simple to do this and have in return some attractive and useful results. From the dried leaf of the pandanus, or as it is commonly called, the hala tree, may be woven such lauhala things as table mats, rugs, and purses which have a definite handcraft charm, One Hawaiian lady formed successful lauhala weaving classes on an Army post where the pupils had nothing more to recover from than the doldrums.

There have been murals painted on the walls of some company day room or curtains painted for some ship's little show; but most organizations are not quiet long enough for such projects in this island dotted ocean.

One enlisted man submitted to a fine arts store a design for a bracelet. The store is executing it in either silver or gold. Resultant good sales will undoubtedly lead to other merchandise following suit. Perhaps the designer forfeits some of his pleasure by not being at liberty to work with his idea all the way to the finished end; but his sacrifice isn't a complete one. He created the design, someone else executed the bracelet; but over all he has the satisfaction of knowing the final form is the creation of his own idea. He found a conjunction of conditions and adapted them to his present particular situation. Maybe his findings are the essence of the art opportunities for the man in service in the Central Pacific area. True, this essence does not define the comfy form of opportunity we are won't to think of; but the average man in service in this part of the world is on or floating between little island worlds without great cities, without great libraries, without great architecture, or museums, or monuments. He is where there is little to preserve but nature and the mind of man. Opportunities as always are there; but more than ever—they are not towering in front of him. They are within himself.

CERAMICS TO-DAY

By H. G. FISK, mineral technologist at the Armour Research Foundation, Illinois Institute of Techonolgy.

● A scientific industry as ancient as man yet as modern as today is coming into its own—and may yet prove to be one of the saviors of the American standard of living. The industry is that of ceramics, which began as an art rather than a science centuries ago when primitive man first formed crude utensils from the clay around his aboriginal home.

The ceramics of today is a far cry from those early clay dishes. Even before war took metals out of circulation, ceramic raw materials were involved in 70 per cent of all industrial chemistry operations, they were fundamentally basic in the processing of most metals and an integral part of such sciences as radio and electrical engineering.

Since Pearl Harbor imposed rationing upon the American scene, however, ceramics is daily becoming more important than ever and is well on its way toward a degree of importance it has not known since the advent of the metal age.

Modern ceramics, too, is a far wider science than mere clay modeling. In its broadest sense, it involves practically all non-metallic minerals.

And that is the basis for its special importance in wartime, for non-metallic minerals along with plastics are the only answer to the plaguing question of replacing metals needed in war production.

Silicate products—principally glass—are the basis for a large portion of ceramic articles—glass for window panes as well as the precision mirrors and lenses of modern optical instruments, glass made into dishes said to rival fine eastern china in beauty. And now, glass is being put into use once again for food containers, for shipping oil and other fuels. And modern improvements in anealing are making it practical.

Glass insulation was successful even before the war—but war's stimulus makes it almost a "must." Glass wool, for example, used in insulating a battleship cuts down the weight by some 50 tons, and it is fireproof and vermin-proof.

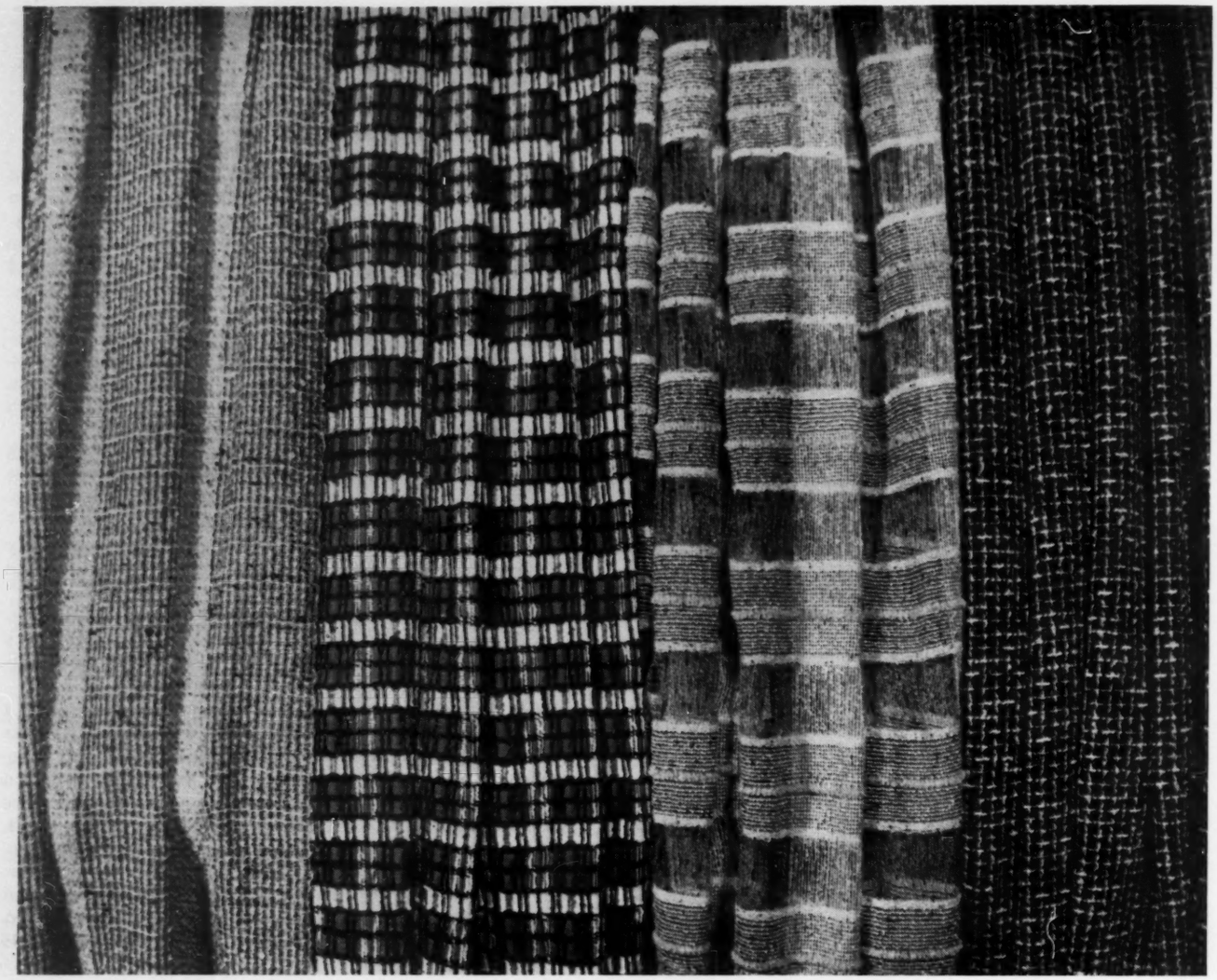
Another new use for glass is in marking airports and military highways. Tiny glass beads imbedded in the surface of markers reflect even a weak light into a guide for fliers or caravans.

A second common and fundamental ceramic product is enamel, which today is experiencing a come-back as a replacement for aluminum. Aluminum once replaced enamel in the manufacture of kitchen utensils, hospital instruments and other common containers, and gained immediate popularity because of its greater lightness. Today's superior enamels, however, placed over a stronger and thinner base metal, rival even aluminum.

Enamel has also been introduced as a lining for water and steam pipes and hot water heaters since copper has joined the list of vital metals. And enamels are even used on bricks and other construction materials to aid in withstanding the elements.

Another fundamental use of ceramic products is for abrasives. The modern machine gun, for example, requires 32 different grinding operations before it acquires the precision for firing against the enemy. And the abrasive wheels used in those grindings are the modern descendents of the old grindstone—made to run at speeds at which the latter instrument would have flown into a thousand pieces.

Made from fused alumina, formed from beauxite deposits too poor in quality for extraction of pure aluminum, the modern abrasives are hard enough to grind the finest steels to precise measurements. Other abrasives still harder are made of tungsten carbide and boron carbide.



Textiles woven by Robert D. Sailors awarded first prize for woven textiles.

ANNUAL TEXTILE EXHIBITION

● A pioneering venture in art exhibitions, the INTERNATIONAL EXHIBITION which was shown during the month of March in Weatherspoon and Little Galleries of The Woman's College, offered textile designers their first opportunity to show their work and view other contemporary work. Sponsored by the college art department to encourage creative textile designing at a time when the industry faces a postwar period of gigantic readjustment to unprecedented demands, the exhibition attracted more than 225 entries, enough of which passed the jury to indicate the range of artistic activity being accomplished today in the field of creative design.

That freshness and originality are the exception rather than the rule of the entries indicates the need for encouragement in this field of art. The Woman's College will endeavor to meet that need by making the textile exhibition an annual affair.

Woven textiles dominate the exhibition, and they are on the whole much stronger than the printed materials, being characterized by soundness and stability.

Originality and freshness of conception distinguish the works of two of the first prize winners, Ilse Hamann in the printed division, and Robert D. Sailor, who has several woven entries other than his prize winning set of four suiting and drapery lengths. Miss Hamann, from La Mesa, California, in her set of five table mats, shows beautiful spacing, unusual conception and handsome application of color. Sailor's prize winning set shows considerable range in the use of color and also in the use of the medium and a refreshing and original conception.

Tying with this set for first place in the woven division is a rug by Edna Vogel of the Cranbrook Academy of Art, Bloomfield Hills, Michigan, as is Sailor. An honest and sincere piece of work, it is excellent in spacing and in use of texture, and although it is not unusual in conception, it is marked by fine, sensitive color. Two other entries by Miss Vogel, a heavy red upholstery fabric, rich in color and fine in texture, and a beige, gray and rose rug, pleasing both in color and texture are among the outstanding textiles in the show.

NATIVE HANDICRAFTS IN NEW ZEALAND

By PFC. RALPH STEIN

● From all indications the real natives of New Zealand are the people known as the Maoris. These people, as nearly as can be traced, came to New Zealand hundreds of years ago from neighboring islands in the South Pacific. Hawaii is believed to have been their origin but scientists claim that Samoa and Bali and Fiji all are responsible for the race that we know as the Maori tribes of New Zealand. At any rate they were, and are still, an enterprising people and made the trip by sea, originally, in huge hand hewn canoes. In these they sailed forth for new homes and of course it was then a matter of the survival of the fittest.

Not only were these people enterprising but they were highly skilled in the arts craft work. In the handcrafts was their way of life. Their tools, cloth, dwellings, art things all were products of their ingenious minds and creative hands, and art influenced all their life and entered every phase of their living. Their code of living was not written so much as it was represented graphically in ornate carvings which are found everywhere.

Their huts and buildings are elaborately carved. Legends and historic backgrounds are easily traced through these carvings. Sometimes the carvings are painted in red, white and black with inlay of shell added to make it more interesting. The village meeting house is the most elaborate of the buildings. In poor communities they are less lavish. But in general meeting houses are elaborately decorated inside and out with carving and painting.

The part which would correspond to a facade is elaborate in its relief carvings. Here are found many gargoyle-like figures and abstract designs. Grotesque faces with protruding tongues (a gesture of friendliness). Tongues pointed carved to represent an untrustworthy person smooth tongues to represent the fellow who hands out a line, and faces having but one eye are found. Heads with two faces represent those two faced people we all meet in life at one time or another and on it goes.

Inside, the roof is made of carved beams, some painted red, white and black, others just natural wood. The ceiling overlaid above this is made of reed laid closely and resting on the beams.

The walls are uneven of small pieces of wood in geometric patterns. These patterns all represent some character or some family. Much as does a coat of arms. Today they represent even newer aspects of family tradition. And no duplicate is found except the one directly across from it on the opposite wall. Here, again, pillars and supports are a mass of relief carvings. The pieces of wood uneven like mats on the wall are natural wood and reed and retain their natural colors, the binding, or woof, is of black or white or both bands of a supple reed or grass, flax being commonly used.

Greenstone, shell, stone and metal carvings are plentiful as talismans and jewelry. "Grass" skirts are made of flax leaves. The leaves are bruised at regular intervals to produce a cylindrical effect. This causes the leaf to curl as it dries (the bruising) and the fibres in the bruised parts hold the unbruised pieces together. The unbruised parts curl and produce the tiny cylinder in a chain effect. Many of the leaves so treated make up the skirt and produce a rattling swish when worn. When worn in their tribal dance they are very effective.

The flax is also used to make linen cloth, which is dyed and used for clothes and other articles of decorative and utilitarian value. These ways of life prevail even today. Their sacred little good luck charm or the Tiki as it is called is prevalent in Greenstone in wood or in metal. It is worn as a charm, but is also worn as a symbol of betrothal.

The villages are used more or less today as show places. The Maoris' and their customs still prevail but they live in houses as we do. Of course they are proud to display their old time villages which are maintained for tourists. But in their everyday way the small art works thrive.

Handmade bowls of stone and wood are found and almost any article one might want for home or fieldwork are there, handmade and well built. The designs are Negroid in quality but with more humor and dash than much of the heavy and sordid negro art. This may be explained to some extent by the fact that they haven't been held down by social pressure as has the negro. They are accepted socially and politically and occupy the same position in the community that their white neighbors do. They vote, teach and work side by side. There we find no race prejudice. This alone would account for a freedom of spirit not found among our own downtrodden negro, who is kicked about socially in what we call a democracy wherein all men are created equal. The spirit of the times and of the community is always reflected in the art works.

EDITOR'S NOTE:

We wish to share this. We were much interested in this account of art experience in New Zealand sent us by Pfc. Ralph Stein of St. Paul and we feel our readers will enjoy it as well for many have known the author. A designer and craftsman of note he played a prominent part in the art life of the twin cities in Minnesota. After joining the armed forces he has seen much of the realities of war having gone all through the battle of Guadalcanal which was "bad enough" to quote his words but also the taking of Tarawa. It is a tribute to the younger artists of America like Pfc. Stein that they have so willingly and patriotically turned from the work in the arts to play such an unselfish part in the world conflict that democracy and culture may go on in our lives in the future.

OUR BOOK DEPARTMENT

We are now ready to offer a special service in the latest as well as standard art books for our readers. Here are a few timely books every teacher should know. More will be listed soon.

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EXPLORING THE GRAPHIC ARTS by Anthony Matinaccio and Burl Neff Osburn. 288 pages, 6x9, 183 illustrations. **Price $2.50.**

This book is based on the assumption by the authors that experience is the foundation of learning. Throughout, the student is given a broad yet comprehensive orientation of graphic arts, history, processes, materials, industries and occupation and their place in contemporary life.

Thorough classroom teaching, utilizing the "how to do" approach, is promoted through provision of flexibility of instruction to meet each student's interests and abilities. Special emphasis is given to full-page work plates on processes which can be easily understood. These processes, well developed and expressed, relate to both hand and machine methods used in graphic arts.

This book was written primarily for junior and senior high schools and teachers' colleges. Also, it will serve journalism students, printers, artists, collectors of fine prints, salesmen of books, graphic arts materials and products, as well as persons interested in hobbies which may be performed with simple home equipment.

THE ART MUSEUM COMES TO THE SCHOOL by Lydia Powel. 160 pages, 5x 7½. **Price $2.00**

Here is a timely book which will be of special interest to those alert art educators who realize how important an art Museum may be in teaching.

The author says, "This book reports an adventure in teaching." It aims at far more than appreciation of art for it presents a basic way of "learning through seeing" that may be applied to any subject. In this book the experience of art museums in Buffalo, Chicago, Cleveland, Milwaukee and New York City is set forth to show how relationships with public schools have been and can be vitalized. The volume thus becomes in effect not only a record but a suggestive guide on how art museums and schools can collaborate together to the enhancement of the services of each in the cultivating of a wider appreciation of art in this country. By virtue of her experience with the Institute for Educational Research at Teachers College, Columbia and her present position as Director of Education in the Museum of Art of the Rhode Island School of Design, Mrs. Powel is peculiarly equipped to appraise these developments in a manner best calculated to throw light on the possibilities here. Mr. Thomas Munro of the Cleveland Museum of Art contributes the Conclusions which point especially to broader applications of the findings of this study.

YOU CAN MAKE IT by Louis V. Newkirk and La Vada Zutter. 224 pages, 7¾x10½. For grades 5-8. **Price $3.00.**

This book was written for those who have been looking for handwork projects that are easy and yet interesting enough to hold the attention of your pupils—projects that require only simple, easily obtained and inexpensive materials and equipment. YOU CAN MAKE IT is a treasure house of interesting, useful things for younger children to make. The materials called for are mainly paper and cardboard, and the tools required are for the most part to be found in any school or home. This is a big book, pleasingly informal in its approach, crammed with ideas and fun. Large, full-page drawings alternate with the simple, easily followed directions and give a graphic, step-by-step picture of each project. Sparkling photographs show many of the projects in their completed form. As you turn the pages you will be astonished by the sheer number of worthwhile things pupils can make from the simplest materials. You will be equally impressed by the author's imaginative ingenuity and meticulous care in working out each detail. Whether it be toys, costumes, decorations, or games; useful articles for the home and school; or appropriate gifts for birthdays, Christmas, Easter, Mother's Day, or Father's Day —your children will find them all here, cleverly worked out, easy to make, fun to own or to give.

COSTUME DESIGN by Carolyn G. Bradley. 169 pages, 8½x11, 39 full-page illustrations. **Price $2.50.**

Here is a workbook—an introductory outline—for a course in Costume Design, for students majoring in Fine Arts and Home Economics. This is a time saver—shortening the period ordinarily spent in the mechanical side of the work, and giving each student more freedom for actual planning or designing of various parts of the costume.

Because of the real interest every girl has in the subject, effective means of proving the very important problems of art and good taste as they are related to personal appearance becomes of immeasurable value.

This second edition is replete with 39 pages of drawings conforming to anatomical types conventional in fashion design. In COSTUME DESIGN the subject problems are salient features which require student originality. With text material and drawings printed on paper suitable for water-coloring and tracing paper made available where it is thought advisable for sketching the costume or parts of the costume directly, this book is constructed to lie flat when opened on the student's desk or sketching table. Most of the pages are perforated and may be detached for insertion in a portfolio—with directions for making the latter included in the text material.

CREATIVE TEACHING IN ART by Victor D'Amico. 259 pages, 7½x10½. Fully illustrated. **Price $3.50.**

This book comes as a great help and inspiration to those art teachers who are aware of today's needs and are eager to do a good job of teaching. The author is an outstanding teacher in this field and is in a position to get an over-all picture of the problems facing teachers of America. He writes clearly and stresses those values which are vital.

This book is intended to interpret a

practical philosophy of creative teaching. Theory is closely interwoven with practice so that the reader may readily see how a creative concept is developed in the teaching of art. Methods, media, and technics are employed as means not only of enriching the child's personality, but also of developing some concept of art in the child. They are never considered as ends in themselves. Sculpture, for instance, is used to develop an understanding of form; and etching, a feeling for line.

Methods of teaching the arts should be adapted to the changing needs, capacities and interests of the growing child. It is important therefore, to trace the creative development of the child in relation to each of the arts, and to suggest methods best suited to each age level. While it is necessary, for the most part, to analyze and discuss the age levels in relation to the general behavior patterns of such groups, attention is called to individual differences and to variation from the "average" of both precocious and backward children.

PRACTICAL POTTERY FOR CRAFTSMEN AND STUDENTS by R. H. Jenkins. 192 pages, 6x9. **Price $2.75.**

It seems well in these days to turn to books of this kind which, although they were published a few years ago, are filled with most timely material for present day needs. Today homecraftsmen are "re-discovering" pottery—and learning that this time-honored craft makes a hobby of absorbing interest and artistic self-expression. In this complete, clearly written, methodically presented handbook the beginner will find a reliable guide to every phase of pottery, from the selection of proper, equipment and material, to a quick, easy grasp of the basic processes. The fruit of the author's more than twenty years' experience as teacher and craftsman, it makes self-instruction possible for the worker of little experience, while the skilled craftsman will find it a source of many helpful hints and ideas. Mr. Jenkins begins at the beginning and follows through with explanations of essential operations and related information in proper sequence.

POTTERY MADE EASY by John W. Dougherty. 179 pages, 6x9. **Price $2.50.**

Contrary to the widespread idea that pottery is too difficult and expensive as a hobby for the amateur craftsman, this book shows how artistic pieces can be turned out in the home shop with a minimum of difficulty—and with home made equipment.

The first complete analysis of pottery on the level of the amateur craftsman. This book, published a few years ago, gives detailed descriptions of the various methods: coil, sticking up with slabs, modeling, casting, pressing in molds, and throwing on a wheel. Simple easy-to-follow instructions and helpful illustrations cover every phase of the work from the mixing and wedging of the clay to the forming, decorating, finishing and glazing of the object. These are the same instructions used with notable success in the author's classes for beginners over a period of more than a decade. A handy chart included will help the beginner choose from a wide variety of interesting projects which embody certain of the processes he has learned and which will show him how the object of his choice is made by performing these processes in their proper sequence.

In addition the author gives a brief history of the potter's craft: a glossary of potter's terms; a list of needed supplies, tools, and equipment; and a bibliography.

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OWATONNA ART PROJECT PUBLICATIONS—Nos. 4, 5, 6, 7, 8 and 9 by Edwin Ziegfeld and Mary Elinore Smith. **Price complete set $5.00.**

These pamphlets just off the press present a clear picture of the much discussed Owatonna Art Education project. Begun in the early 1930's and continuing to June 1938 this five year experimental program has now been recorded for the benefit of educators throughout America. Under the direction of Dean Melvin E. Hagerty of the University of Minnesota and with Edwin Ziegfeld as resident director many valuable results developed around the theory that "art is the way of life." Several publications concerning the project have already appeared in the past namely:

No. 1, Art A Way of Life by Melvin E. Haggerty.

No. 2, A City That Art Built by August C. Krey.

No. 3, Enrichment of the Common Life by Melvin E. Haggerty.

Pamphlet No. 4, 155 pages, 6x9 just off the press is entitled Art For Daily Living and reviews the entire project from the standpoint of the resident director. It should be of great value to art supervisors and teachers interested in Art in community education. It covers such subjects as: The Beginnings, Art In The Daily Life of Owatonna, An Experiment in Community Art Education, the Community: Discoveries and Generalizations, Developing the Art Program in the Schools, Outcomes and Outgrowths of the Project, A Point of View in Art Education, The Program in the Classroom, The Art Program in the Elementary Grades and The High School Art Program.

Pamphlet No. 5, 64 pages, 6x9. Art Units for Grades 1-3 includes: Making a Living Room at School, Learning About Clothes, What the Farmer Does For Us, Beautifying the Schoolroom, Building a Store, Machines, Trees in Autumn, Making a Newspaper, American Indians and Using Art in the Home.

Pamphlet No. 6, 66 pages, 6x9. Art Units for Grades 4 to 6 includes: How Communities Grow, Making a Magazine, Artists and Industry, Textiles in Everyday Life, Man Conquers Distance, Architecture in Community Life, Life in the Medieval World, Planning Homes and Gardens.

Pamphlet No. 7, 92 pages, 6x9. Art Units for the High School. This is a study of the home including: House Design, Interior Design and Garden Design.

Pamphlet No. 8, 80 pages, 6x9. Units for the High School. This is a study of the Urban community, including: Community Planning, Industrial Design and Commercial Architecture.

Pamphlet No. 9, 100 pages, 6x9. Units for the High School. This is the study of Graphic Art including: Painting, Photography and Printing and Advertising.

WEAVING AT THE LITTLE LOOMHOUSE by Lou Tate. 36 pages, 8x10½, paper binding. **Price $1.00.**

This is probably the most practical and inexpensive weaving manual available. It was designed primarily for beginners by a professional weaver interested in American Folk Art Growths in Handwoven Textiles. This publication is the result of years of study, research and experimentation to find answers to the needs of beginner weavers and amateurs. It is fully illustrated and presents the essential steps in weaving and includes basic technics so that one may advance to any type of hand weaving. There is much valuable information on how to make an efficient loom, suitable for beginners, at a minimum price. It is also possible to secure valuable blue prints and instruction sheets with this booklet.

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40 ART TECHNICS
100 ILLUSTRATIONS

FREE BRUSH PAINTING ★ CONTOUR DRAWING ★ PAINTING WITH PENCIL ★ THREE DIMENSIONAL DRAWING ★ CHARCOAL ★ FLAT LITHO CRAYON ★ COUNTER CHANGE ★ SCRATCH BOARD ★ COQUILLE BOARD ★ TORN PAPER ★ CUT PAPER ★ COLLAGE ★ MONTAGE ★ PHOTOGRAMS ★ SPATTER ★ SPRAYED DESIGNS ★ AIR BRUSH ★ DRY PAINTING ★ STENCIL ★ WOOD BLOCK ★ LINOLEUM BLOCK ★ AMATHOGRAPHY ★ LITHOGRAPHY ★ DRY POINTS ★ MONOTYPES ★ SAND PAPER MONOTYPES ★ AQUATINTS ★ LINOLEUM MONOPRINTS ★ HELIO PRINTS ★ TEMPERA COLOR PROCESS ★ SILK SCREEN ★ BATIK ★ FINGER PAINTING ★ CRAYON PRINTS ★ RHYTHMO-CHROMATIC DESIGN ★ MOTTLED PAPERS ★ CRUMPLED PAPERS ★ CRACKLED PAPERS ★ PUDDLE AND SQUEEGEE METHOD ★ OIL—WATER METHOD ON PAPER.

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